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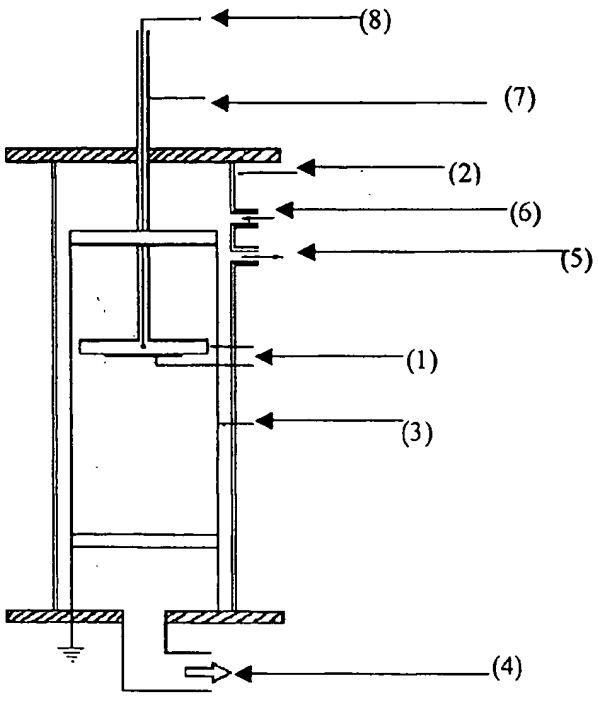
(54) Title: HYDROGEN DIFFUSION BARRIER ON STEEL BY MEANS OF A PULSED-PLASMA ION-NITRIDING PROCESS



(57) Abstract: Patente of invention for "Hydrogen Diffusion Barrier on Steel by Means of a Pulsed-Plasmalon-Nitriding Process". The present invention refers to a pulsed-plasma ion-nitriding process performed with the objective of creating hydrogen diffusion barrier on steel, herein exemplified by using the API 5L X-65 steel; high-strength low-alloy steel. The pulsed-plasma ion-nitriding consisted to drive ions and active species of atomic and molecular nitrogen to the material's surface by applying a difference of potential between two electrodes, periodically interrupted with a pre-determined frequency, such that the cathode (1) is the own material or piece to be treated, in a chamber (2) that was previously vacuum pumped (4) and then filled up (6) with the gas nitrogen or a gaseous mixture containing this gas.

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